

**4332-90**

**DEPARTMENT OF THE INTERIOR**

**Bureau of Reclamation**

[RR08100000, 16XR0680A1, RY.1541CH20.60IR162]

Announcement of Requirements and Registration for a Prize Competition Seeking:

*Preventing Rodent Burrows in Earthen Embankments.*

**AGENCY:** Bureau of Reclamation, Interior.

**ACTION:** Notice.

**SUMMARY:** The Bureau of Reclamation, in collaboration with the U.S. Army Corps of Engineers, State of Colorado Department of Natural Resources Dam Safety Branch, and various water irrigation districts that operate Federal canals, is seeking new ideas for cost-effective ways to prevent rodents from burrowing into the earthen embankments of dams, canals, and levees. These burrows cause seepage paths in the embankment system which can lead to structural failures that endanger water supplies, and cause property damage and loss of life. Many of the more traditional and “intuitive” methods have been tried with little success to date. We are hoping the Solver community can dig deeper than the rodents to find creative and effective solutions to this Challenge.

**DATES:** Listed below are the specific dates pertaining to this prize competition:

1. Submission period begins on [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER].
2. Submission period ends on [INSERT DATE 40 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].
3. Judging period ends on [INSERT DATE 100 DAYS AFTER DATE OF

PUBLICATION IN THE FEDERAL REGISTER].

4. Winners announced by [INSERT DATE 120 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** The *Preventing Rodent Burrows in Earthen Embankments* Prize

Competition will be posted on the following crowd-sourcing platforms where Solvers can register for this prize competition:

1. The Water Pavilion located at the InnoCentive Challenge Center:

<https://www.innocentive.com/ar/challenge/browse>.

2. U.S. Federal Government Challenge Platform: [www.Challenge.gov](http://www.Challenge.gov).

InnoCentive, Inc. is administering this challenge under a challenge support services contract with the Bureau of Reclamation. Challenge.gov will re-direct the Solver community to the InnoCentive Challenge Center as the administrator for this prize competition. Additional details for this prize competition, including background information, figures, and the Challenge Agreement specific for this prize competition, can be accessed through either of these prize competition web addresses. The Challenge Agreement contains more details of the prize competition rules and terms that Solvers must agree with to be eligible to compete.

**FOR FURTHER INFORMATION CONTACT:** Challenge Manager: Dr. David Raff, Science Advisor, Bureau of Reclamation, (202) 513-0516, [draff@usbr.gov](mailto:draff@usbr.gov); Dr. Jessica Torrey, (303) 445-2376, [jtorrey@usbr.gov](mailto:jtorrey@usbr.gov).

**SUPPLEMENTARY INFORMATION:** The Bureau of Reclamation (Reclamation) is announcing the following prize competition in compliance with 15 U.S.C. 3719, Prize Competitions.

**PRIZE COMPETITION SUMMARY:** Is there a way to stop and prevent rodents from burrowing into earthen embankments of dams, canals, and levees?

Rodent burrows can fill with water when the water levels change, creating seepage paths which can lead to internal erosion in embankments resulting in the potential for catastrophic failure. Embankment failures can cause property damage, cause loss of life, and interrupt crucial deliveries of water in the West and across the nation.

Trapping or baiting rodents on earthen embankments are short term remedies, and experience has shown that within a short time, the rodents inevitably return. Annual programs of rodent removal over thousands of miles of earthen embankment are cost prohibitive and only marginally successful. Solvers are being asked for creative, cost effective, long-term solutions to this very real and serious problem.

A solution is being pursued through a prize competition because we find ourselves often wondering if someone, somewhere, may know a better way of detecting internal erosion in embankments than the methods we currently use. The prize competition approach enables us to reach a new source of potential Solvers to generate new and timely solutions that would not likely be accomplished by standard contractual methods.

This is an Ideation Challenge, which has the following unique features:

- There is a guaranteed award. The awards will be paid to the best submission(s) as solely determined by the Seeker. The total payout will be \$20,000, with at least one award being no smaller than \$5,000 and no award being less than \$2,500.
- ALL INTELLECTUAL PROPERTY RIGHTS, IF ANY, IN THE IDEA OR CONCEPT DEMONSTRATED BY THE PROPOSED SOLUTION WILL REMAIN WITH THE SOLVER. UPON SUBMISSION OF A PROPOSED SOLUTION TO THIS

CHALLENGE, EACH SOLVER GRANTS TO THE BUREAU OF RECLAMATION, ON BEHALF OF THE U.S. GOVERNMENT, A ROYALTY-FREE, PERPETUAL, IRREVOCABLE, NON-EXCLUSIVE LICENSE AND RIGHT TO USE, DISCLOSE, REPRODUCE, PREPARE DERIVATIVE WORKS, DISTRIBUTE COPIES TO THE PUBLIC, AND PERFORM PUBLICLY AND DISPLAY PUBLICLY, IN ANY MANNER AND FOR ANY PURPOSE, AND TO HAVE OR PERMIT OTHERS TO DO SO. NOTWITHSTANDING GRANTING THE SEEKER A PERPETUAL, NON-EXCLUSIVE LICENSE FOR THE PROPOSED SOLUTION, THE SOLVER RETAINS OWNERSHIP OF THE IDEA OR CONCEPT DEMONSTRATED BY THE PROPOSED SOLUTION.

- The Seeker believes there might be a potential for future collaboration with awarded Solver(s), although such collaboration is not guaranteed. The Seeker may also encourage Solver(s) to further develop and test their winning submissions through subsequent round(s) of competition. Solvers should make it clear if they have the ability for subsequent design and development phases and would be willing to consider future collaborations and/or subsequent competitions.

**Technical Requirements.** Any proposed solution should address the following Technical Requirements. Solvers need not meet every technical requirement with one new concept. Concepts that meet some requirements, but not all, will still be eligible for competing for an award. Innovative solutions in one of the necessary components may be considered for partial awards. The Solution should:

1. Reduce by 95% the ability of rodents to burrow in the embankments.
2. Be able to be applied at discrete, remote locations where power is not available.

3. Work reliably for a minimum of 5 years without interruption or major repairs.
4. Require maintenance labor activities no more than every 6 months.
5. Be cost effective to treat or cover earthen embankments that are 1 mile long, but be scalable to treat embankments that are 50 miles long.

It would be nice to have (not as important as the requirements above, but would add value to a submission) a Solution that:

6. Is effective in temperature extremes from 0 to 120 degrees Fahrenheit.
7. Does not kill rodents.
8. Is applicable in both urban areas as well as rural areas.

The Solution should not:

1. Be a review of every type of rodent control tried in the past.
2. Negatively impact the structural integrity of the embankment or any of its appurtenant features.
3. Promote the establishment of a new predator that will harm other non-target species.
4. Contaminate water in or behind the embankment.
5. Displace the rodents from one area of the embankment to another area.
6. Create a favorable rodent habitat or supply food and shelter to the rodents.
7. Exterminate or harm non-target species such as humans, pets, or endangered species.

Solutions that meet the technical requirements will also be judged on logistical feasibility, applicability to varying environments, readiness, overall costs, and scalability.

**PROJECT DELIVERABLES:** This is an Ideation Challenge that requires only a

written proposal to be submitted. At least one solution will be deemed the winner. The submitted proposal should include the following:

1. Detailed description of a method and/or device. The Solver must describe with a high level of technical detail as to how the system would meet or not meet each of the “should have” and “nice to have” attributes in the Technical Requirements described above. The Solver should expect that their submittal will be reviewed by experts in the field of biology and those with relevant operations, maintenance, and engineering expertise.

2. Rationale as to why the Solver believes that the proposed method and/or device will work. This rationale should address each of the Technical Requirements and should be supported with relevant examples.

3. Drawings/sketches of any proposed system, if appropriate.

4. Sufficient data to support claims, if available.

5. List of equipment required and rough cost estimate.

6. Detail on how the solution could be developed and tested in the field.

7. Your area of expertise/qualifications that allow you to develop the idea.

Submitted proposals should not include any personally identifiable information that the Solver does not want to make public, or any information that the Solver may consider as their own Intellectual Property which they do not want to share.

**JUDGING:** After the Challenge deadline, the Seeker will evaluate the submissions and make a decision with regards to the winning solution(s). All Solvers that submitted a proposal will be notified on the status of their submissions. Decisions by the Seeker cannot be contested.

Submitted solutions will be evaluated by a Judging Panel composed of scientists, engineers, and other related technical experts. The Judging Panel will also have consultation access to technical experts outside of their expertise, as determined necessary, to evaluate specific submissions.

**ELIGIBILITY RULES:** To be able to win a prize under this competition, an individual or entity must:

1. Agree to the rules of the competition (15 U.S.C. 3719(g)(1));
2. Be an entity that is incorporated in and maintains a primary place of business in the United States, or (b) in the case of an individual, a citizen or permanent resident of the United States (15 U.S.C. 3719(g)(3));
3. Not be a Federal entity or Federal employee acting within the scope of their employment; (15 U.S.C. 3719(g)(4));
4. Assume risks and waive claims against the Federal Government and its related entities (15 U.S.C. 3719(i)(1)(B)); and,
5. Not use Federal facilities, or consult with Federal employees during the competition unless the facilities and employees are made available to all individuals and entities participating in the competition on an equitable basis.

The following individuals or entities are not eligible regardless of whether they meet the criteria set forth above:

1. Any individual who employs an evaluator on the Judging Panel or otherwise has a material business relationship or affiliation with any Judge.
2. Any individual who is a member of any Judge's immediate family or household.
3. The Seeker, participating organizations, and any advertising agency, contractor or

other individual or organization involved with the design, production, promotion, execution, or distribution of the prize competition; all employees, representatives and agents thereof; and all members of the immediate family or household of any such individual, employee, representative, or agent.

4. Any individual or entity that uses Federal funds to develop the proposed solution now or any time in the past, unless such use is consistent with the grant award, or other applicable Federal funds awarding document. NOTE: Submissions that propose to improve or adapt existing federally funded technologies for the solution sought in this prize competition are eligible.

**CONSULTATION:** Geotechnical engineers, biologists, facility managers, and technical specialists from across Reclamation and U.S. Army Corps of Engineers were consulted in identifying and selecting the topic of this prize competition. Direct and indirect input from various stakeholders and partners associated with the asset management program efforts by these agencies were also considered.

**PUBLIC DISCLOSURE:** InnoCentive, Inc. is administering this challenge under a challenge support services contract with Reclamation. Participation is conditioned on providing the data required on InnoCentive's online registration form. Personal data will be processed in accordance with InnoCentive's Privacy Policy which can be located at <http://www.innocentive.com/privacy.php>. Before including your address, phone number, e-mail address, or other personal identifying information in your proposal, you should be aware that the Seeker is under no obligation to withhold such information from public disclosure, and it may be made publicly available at any time. Neither InnoCentive nor the Seeker is responsible for human error, theft, destruction, or damage to proposed



solutions, or other factors beyond its reasonable control. Solver assumes any and all risks and waives any and all claims against the Seeker and its related entities, except in the case of willful misconduct, for any injury, death, damage, or loss of property, revenue, or profits, whether direct, indirect, or consequential, arising from participation in this competition, whether the injury, death, damage, or loss arises through negligence or otherwise.

Dated: August 22, 2016.

Signed: \_\_\_\_\_  
David Raff,  
Science Advisor

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